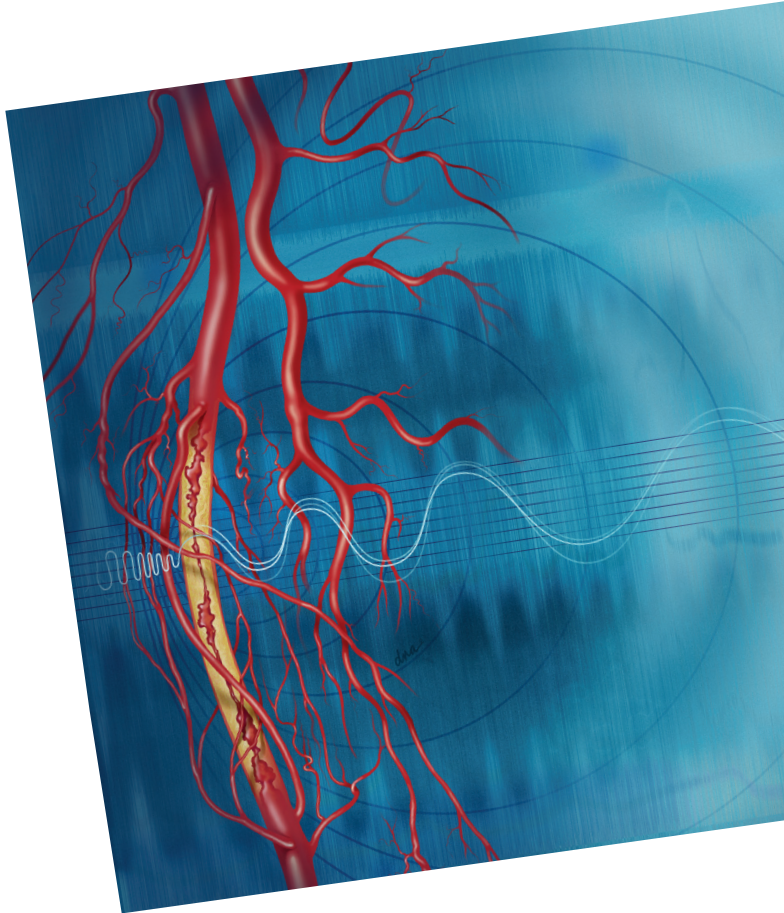


# Peripheral Arterial Disease

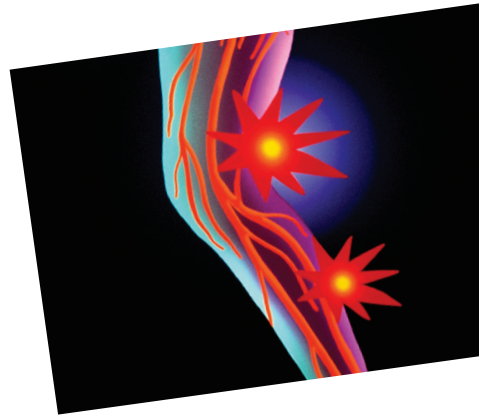


The Department of Surgery sees patients for a wide range of surgical services. These include Colorectal, Endocrine, Breast, Upper GI, Bariatrics, Hepatobiliary, Plastics, Neurosurgery, Urology and Vascular Surgery. Our highly qualified consultants use minimally-invasive surgery and surgical endoscopy for diagnostic and therapeutic interventions in the treatment of these conditions. We provide inpatient and outpatient care with a 24-hour acute surgical service. Day surgery (endoscopy) and minor surgery (lumps and bumps) are also offered at Jurong Medical Centre.

# What is peripheral arterial disease?

Peripheral arterial disease occurs when the arteries of the lower limb narrow due to atherosclerotic disease. Atherosclerosis is a disease where abnormal fatty material and plaque lines the inside of an artery and reduces blood flow. Coronary (heart) arteries, lower limb arteries, and carotid (neck) artery are frequently affected. People above 50 years old, chronic smokers, people with diabetes, hypertension and hyperlipidaemia (high cholesterol in blood) are also at risk.

When it affects the arteries of the legs, it initially causes pain when you walk. If narrowing becomes more severe, pain persists even at rest. In severe cases, ulcers or gangrene of the toes or feet may develop.



## Symptoms

Peripheral arterial disease does not show symptoms in the early stages. As the condition progresses, symptoms may include:

- **Intermittent claudication**  
Aching or cramps in the leg muscles after walking a certain distance. This goes away with rest.
- **Rest pain**  
Pain in the toes or feet even when you are at rest. The pain worsens at night and can only be relieved by hanging the foot over the bed. Such pain occurs due to a lack of oxygen to the affected area and is known as critical limb ischaemia.
- **Ulceration and Gangrene**  
As the disease progresses, it becomes hard for the foot to heal from even minor injuries. Ulceration and gangrene develop rapidly and amputation may be required.

# Investigations

Your doctor may advise the following investigations to determine the stage of your disease:

- **Ankle Brachial Pressure Index (ABPI)**  
This assesses the blood supply to your feet by comparing the blood pressure in your arms with the blood pressure in your legs. If you have atherosclerosis of the leg arteries, blood pressure in your feet will be lower.
- **Duplex Ultrasound**  
Duplex ultrasound is a safe and non-invasive way to diagnose narrow or blocked arteries.
- **CT Angiogram**  
This is a highly-specialised scan that uses radiation and contrast to determine the extent of disease in the arteries.

# Management

Conservative management involves making lifestyle changes and risk-factor modifications. You can:

- Eat healthy
- Exercise regularly
- Lose weight
- Manage hypertension, diabetes and hyperlipidaemia with appropriate medications
- Stop smoking
- Take anti-platelet medication to thin your blood and improve blood flow in the diseased arteries
- Walk for 45 minutes, three times a week (proven to improve walking distances in people with diseased arteries)



## Surgical treatment

Surgery is recommended for patients with significant lower limb symptoms:

- **Endovascular treatment (minimally-invasive)**  
This procedure opens up narrowed or blocked arteries and is guided by X-rays and can be performed under local anaesthesia.
- **Endarterectomy**  
This is an open procedure that removes an atherosclerotic plaque from a short segment of diseased artery to improve blood flow.
- **Arterial Bypass (Open surgery)**  
This is a more invasive procedure. A bypass graft is inserted to take blood around a blocked artery. This surgery exposes the arteries above and below the blockage.
- **Hybrid procedure (combination of endovascular and open surgery)**  
This is a minimally-invasive and open procedure used to treat complex arterial disease.

## Wound debridement and amputations

This is advised in patients with ulceration and gangrene of the toes and foot. Used with the above surgical treatments, it can improve healing and help patients return to their normal activities sooner.

## Multi-disciplinary care

A multi-disciplinary team comprising Vascular Surgeons, Foot & Ankle Surgeons, Diabetologists, Podiatrists, Wound Care Nurse Specialists and Rehabilitation Specialists offers comprehensive, holistic and evidence-based management of peripheral arterial disease to patients.

## For more information

### Ng Teng Fong General Hospital and Jurong Community Hospital

1 Jurong East St 21, Singapore 609606

[www.ntfgh.com.sg](http://www.ntfgh.com.sg) | [www.jch.com.sg](http://www.jch.com.sg)

### Clinic opening hours

Monday – Friday: 8.30am – 5.30pm

Saturday: 8.30am – 12.30pm (Selected clinics only\*)

Dental Clinic: Monday – Thursday: 8.00am – 5.30pm, Friday: 8.00am – 5.00pm

\*Please refer to our websites for more details.

### General enquiries & appointments

General enquiries line: 6908 2222 (24-hr)

Fax: 6716 5500 | Email: [contactus@nuhs.edu.sg](mailto:contactus@nuhs.edu.sg)

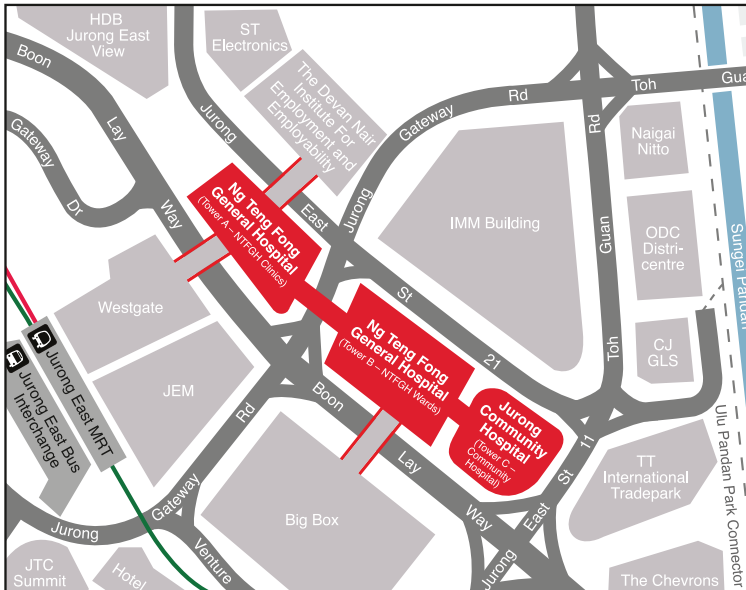
Appointment line: 6908 2222 (Monday – Friday: 8.00am – 5.30pm, Saturday: 8.00am – 12.30pm)

Fax: 6716 2200 | Email: [appointment@nuhs.edu.sg](mailto:appointment@nuhs.edu.sg)

Dental appointment line: 6716 2233 (Monday – Friday: 8.00am – 5.30pm)

Fax: 6716 2200 | Email: [JHCampus\\_Dental@nuhs.edu.sg](mailto:JHCampus_Dental@nuhs.edu.sg)

## Getting there



### By train

Alight at Jurong East MRT Station

### By bus

#### Jurong East Bus Interchange

41, 49, 51, 52, 66, 66B, 78, 78A, 79, 79A, 97, 97E, 98, 98M, 105, 143, 143M, 160, 160A, 160M, 183, 183B, 197, 333, 334, 335, 506

#### Along Boon Lay Way

49, 99, 333, Private bus service 625, 990

### Disclaimer:

The information in this brochure is meant for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek your doctor's advice before starting any treatment or if you have any questions related to your health, physical fitness or medical condition. Information is accurate at the time of printing.